

## Writing and Solving Equations from Word Problems

### Guided Notes

A. A new one-year membership at RecPlex costs \$160. A registration fee of \$28 is paid up front, and the rest is paid monthly. How much do new members pay each month?

1. Define the variable (What do we not know?): *m - monthly payment*
2. Determine the constant (if there is one): *28*
3. What is the rate (look for "each", "per", something that will repeat):
4. Write the equation and solve: *12m*

$$\begin{array}{r}
 12m + 28 = 160 \\
 -28 \quad -28 \\
 \hline
 12m = 132 \\
 \underline{12} \quad \underline{12}
 \end{array}$$

$$m = 11.09$$

B. Juan's cell phone company charges \$35 a month for phone service plus \$0.50 for each text message. How many text messages does Juan send in a month if his bill was \$52?

1. Define the variable: *t - text messages per month*
2. Determine the constant: *35*
3. What is the rate: *.5t*
4. Write the equation and solve:
 
$$\begin{array}{l}
 35 + .5t = 52 \\
 .5t = 17 \\
 t = 34
 \end{array}$$

C. Friendship's soccer team purchased uniforms and equipment for a total cost of \$912. The equipment cost \$612, and the uniforms cost \$25 each. How many uniforms did the school purchase?

1. Define the variable: *u = # of uniforms*
2. Determine the constant: *612 - equipment*
3. What is the rate: *25u*
4. Write the equation and solve:
 
$$\begin{array}{l}
 612 + 25u = 912 \\
 25u = 300 \\
 u = 12
 \end{array}$$

Name \_\_\_\_\_

**REAL LIFE EQUATIONS- #1**

**Directions:** Solve each problem below by writing an *equation* that matches the situation. Then solve your equation to find the solution to the problem.

- 1) Desiree made 100 cookies this week. She baked 4 more than three times the total she made last week. How many cookies did she bake last week.  
 $3x + 4 = 100$   $x =$  \_\_\_\_\_
- 2) Shakira went bowling with her friends. She paid \$3 to rent shoes and then \$4.75 for each game of bowling. If she spent a total of \$21, then how many games did Shakira bowl?
- 3) This year, Cornell's class took one more than three times as many field trips as last year's class. This year, Cornell's class took a total of 7 trips. How many field trips did his class take last year?
- 4) This week, Jamyra spent a total of 100 minutes studying. This total was 8 more than four times the amount of minutes she studied last week. How many minutes did Jamyra spend studying last week?
- 5) James earned a total of \$900 last week. This total was \$10 less than five times the amount he earned last week. How much money did James earn last week?
- 6) Kaya rented a limousine for prom. There was a one-time charge of \$100, plus an hourly rate of \$45. Her total cost for the night was \$347.50. How many hours did Kaya rent the limo for?
- 7) At a pizza eating competition, Davonne ate two more than twice as many slices as the runner-up. If Davonne ate 11 slices, then how many slices did the runner-up eat?
- 8) Anthony received \$150 for his birthday this year. This was \$10 less than half the amount he received last year. How much money did Anthony receive for his birthday last year?
- 9) Jasmine is 5 years younger than twice her sister's age. If Jasmine's sister is 22 years old. Then, how old is Jasmine?
- 10) Ronnie charged his customers a flat fee of \$25 to fix computers. Then he charged \$20 for each hour that he spent fixing the computer. If Ronnie made \$175 off of his first customer, how many hours did he spend working?